<u>WE CLAIM</u>:

1. A method of telecommunication over a wide area packet switched network, the method comprising:

sending from a calling party a called number, corresponding to a called party and including an area code, to a first central office connected to a first telephone system;

forwarding the called number from the first central office to a first telephony server connected to the first telephone system and in communication with the wide area packet switched network;

identifying a second telephony server, in communication with the wide area packet switched network and serving said called party in a second telephone system, from a routing and administration database by using at least said area code;

sending the called number from the first telephony server to the second telephony server via said wide area packet switched network; and

selectively establishing a communication link between the first telephony server and the second telephony server according to a prescribed service level to establish communication between the calling and called parties.

2. The method of claim 1, wherein the identifying step comprises:

sending a routing request via the wide area packet switched network from the first telephony server to a routing and administration server having said routing and administration database, the routing request including said area code; and

receiving from the routing and administration server via the wide area packet switched network a routing response including the identity of said second telephony server and the predetermined communication path corresponding to the second telephony server.

3. The method of claim 2, wherein the identifying step further comprises using a second predetermined communication path within said wide area packet switched network to send and receive the routing request and routing response, respectively.

4. The method of claim 2, wherein the routing request includes a calling number of the calling party, the identifying step further comprising obtaining the prescribed service level corresponding to the calling number from the routing response.

5. The method of claim 1, wherein the identifying step comprises accessing said routing and administration database within said first telephony server to obtain the identity of said second telephony server and the

prescribed service level corresponding to the calling party.

6.   The method of claim 1, wherein the identifying step comprises receiving a network address of the second telephony server on the wide area packet switched network.

7.   The method of claim 6, wherein the called number sending step comprises sending a first signaling data packet carrying the called number as payload data and the second telephony server network address as a destination address to a router selectively routing data packets within the wide area packet switched network, the router sending the first data packet via a predetermined communication path based on the destination address.

8.   The method of claim 7, wherein the called number sending step further comprises:

generating a session identifier identifying a call attempt between the calling party and the called party; and

including the session identifier in said first signaling data packet.

9.   The method of claim 8, wherein said selectively establishing step comprises:

receiving a second signaling data packet from the second telephony server including the session identifier and a condition of the called party; and

sending from the first telephony server first traffic data packets having said destination address and carrying digital communication information and said session identifier based on the condition of the called party.

10. The method of claim 9, wherein the third data packets sending step comprises outputting the third data packets at least at a minimum data rate according to the prescribed service level.

11. The method of claim 9, wherein the first traffic data packets sending step comprises:

receiving a third signaling data packet carrying said session identifier and a data rate change request having a value based on traffic along said predetermined communication path; and

outputting the third data packets at a changed data rate based on the received data rate value and in accordance with the prescribed service level.

12. The method of claim 9, further comprising:

sensing at the first central office a condition of the calling party;

sending to the first telephony server a message indicating the sensed condition of the calling party;

suspending the transmission of said third data packets by said first telephony server in response to the message; and

transmitting from the first telephony server to the second telephony server a third signaling data packet including the session identifier and the condition of the calling party.

13. The method of claim 1, further comprising:

receiving at the first telephony server first data packets carrying an identifier for the established communication link and communication samples from the called party via the wide area packet switched network;

forwarding the received communication samples to the first central office on an assigned trunk line based on the identifier; and

supplying the communication samples received on the assigned trunk line from the first central office to the calling party.

14. The method of claim 13, wherein the communication samples include at least one of voice samples and data words.

15. The method of claim 13, further comprising:

receiving at the first telephony server a second data packet carrying an identifier for the established communication link and signaling information indicating a condition of the called party;

generating a signaling message to the first central office from the first telephony server based on the signaling information; and

in the first central office, initiating a response for the calling party based on the signaling message.

16. The method of claim 15, wherein the response initiating step comprises disconnecting the calling party from the communication link.

17. The method of claim 1, wherein the selectively establishing step comprises:

setting the communication link along a predetermined communication path within said wide area packet switched network; and

changing a data rate of the communication link based on traffic on the predetermined communication path.

18. The method of claim 1, wherein the wide area packet switched network is Internet, the identifying step comprising translating an Internet Protocol (IP) address of the second telephony server from the area code.

19. The method of claim 18, wherein the sending step comprises outputting from the first telephony server first packets having the IP address of the second telephony server to a router, the router forwarding the

5 first packets along a predetermined communication path based on the IP address of the second telephony server.

20. A method of telecommunication over a wide area packet switched network, the method comprising:

in a first telephony server connected to a first telephone system, receiving via a wide area packet

5 switched network a first data packet transmitted by a second telephony server of a second telephone system, the first data packet having (1) a destination address corresponding to the first telephony server, (2) a session identifier, and (3) a destination number having

10 an area code served by the first telephony server;

determining via a signaling communication network of the first telephone system a condition of the destination number from a first central office serving the destination number;

15 sending a second data packet carrying said session identifier and said condition from the first telephony server to the second telephony server; and

selectively establishing a communication link between the first telephony server and the second

20 telephony server according to a prescribed service level

to establish communication between the destination number
and a station served by the second telephony server.

21. The method of claim 20, wherein the selectively
establishing step comprises establishing the link on a
predetermined communication path in the wide area packet
switched network.

22. The method of claim 21, wherein the selectively
establishing step comprises changing a data rate of the
communication link based on traffic on the predetermined
communication path.

23. A method of telecommunication over the Internet
comprising:

establishing a dedicated virtual path having a
prescribed bandwidth between at least first and second
telephony servers having respective network addresses
specifying points of presence on the Internet, the first
and second telephony servers connected to first and
second telephone systems, respectively;

storing in a routing and administration database the
prescribed bandwidth and, for each of said telephony
servers, the network address and area codes served within
the corresponding telephone system;

receiving at the first telephony server a call
request initiated by a calling party within the first

15 telephone network, the call request including a calling party number corresponding to the calling party and a called party number, the called party number including an area code;

20 sending a routing request by the first telephony server to routing and administration database including the calling party number and the area code of the called party number;

outputting from the routing and administration database a bandwidth allocation and the network address

25 of the second telephony server in response to the area code supplied by the routing request, the routing and administration database providing said bandwidth allocation from the prescribed bandwidth;

sending signaling data packets by the first

30 telephony server to the second telephony server along the dedicated virtual path, the signaling data packets including the called party number and the bandwidth allocation; and

establishing a communication link between the first

35 telephony server and the second telephony server according to the bandwidth allocation to establish communication between the calling party and a destination corresponding to the called party number.

24.   The method of claim 23, wherein the establishing step comprises:

reserving at least the prescribed bandwidth in a plurality of interconnected routers connected to the Internet;

in each of the routers, identifying a connection link having the reserved bandwidth with adjacent routers, the connection links of the respective routers establishing the dedicated virtual path having at least the prescribed bandwidth.

25. A telecommunications system comprising:

a first switched telecommunications network including:

(1) first switching systems serving first customer premises terminals connected to said first switching systems,

(2) first trunks connecting the first switching systems,

(3) a first system for controlling call set up to selectively establish communication connections between said customer premise terminals over said first trunks, and

(4) a first server providing an interface between communication connections over said first trunks and predetermined virtual paths, each having a prescribed bandwidth and transporting data packets carrying communication data;

a second switched telecommunications network including:

20 (1) second switching systems serving second customer premises terminals connected to said second switching systems,

(2) second trunks connecting the second switching systems,

25 (3) a second system for controlling call set up to selectively establish communication connections between said second customer premises terminals over said second trunks, and

(4) a second server providing an interface between communication connections over said second trunks and said predetermined virtual paths;

a wide area internetwork using transmission control protocols/internet program (TCP/IP) and connecting the first and second switched telecommunications networks via said predetermined virtual paths to establish a communication connection between one of said first customer premise terminals over said first trunks and one of said second customer premise terminals over said second trunks; and

40 a routing and administration database storing the prescribed bandwidth of each corresponding virtual path relative to a total reserved bandwidth, and for each said server: (1) a network address identifying the corresponding point of presence on the wide area

45 internetwork, and (2) numbering codes served by the corresponding switched telecommunications network.

26. The system of claim 25, wherein the wide area internetwork comprises a plurality of interconnected routers, each reserving the total reserved bandwidth for communications between said first and second servers 5 along the predetermined virtual paths.

27. The system of claim 25, wherein the numbering codes are area codes.